

**ABSTRACT**

The invention relates to a beam former which performs coherent composition of signals originating from a given propagation direction, which are received by an array of  $N$  receiving transducers. The inventive methodology and devices are suitable for use in the following fields: radar, sonar, acoustic, seismology, ultrasound imaging (echography and non-destructive testing) and others. According to the invention, the beam former employs arrays having elements which can be distributed randomly. In particular, the invention can be used for dynamic focusing with deflection of the beam in azimuth and elevation, using two-dimensional arrays.